

woman's life was saved.—*Brit. and For. Med. Rev.*, from *Caspar's Wochenschrift*, Nov. 28, 1840.

46. *Retroversion of the unimpregnated Uterus.* By Dr. ALKEN, of Bergheim.—A young woman, twenty-six years of age, accustomed to hard work, found herself suffering one day from difficulty in passing her urine and feces; and these gradually increased till, after fourteen days, there was complete retention of urine and of feces. When the author was called in, he found the patient with a pale fallen countenance, cold extremities, a small, rapid, jarring pulse, hurried respiration, insatiable thirst for cold water, hiccup, vomiting, &c. The abdomen was very tense, the urinary bladder distended up to the umbilicus, and every movement of the abdomen and the slightest touch extremely painful. Examination detected a complete retroversion of the uterus, so that its vaginal portion was immovably fixed against the pubes, and its fundus was thrust deep into the pelvis. The patient had been in this state for ten hours. The urine was with difficulty drawn off by the catheter, and after bleeding and the warm bath, an attempt was made to reduce the uterus to its right position by pressing it in opposite directions through the median of the vagina and the rectum. After the efforts had been continued an hour the uterus returned to its place. The replacement was perfect; but on the following day the retroversion again occurred after same exertion. It was again reduced with much greater facility than before, and by observing the horizontal posture for nearly three weeks, it was prevented from again returning. The patient was watched for several months, and it was clearly determined that at the time of the retroversion the uterus was in the unimpregnated state.—*Brit. and For. Med. Rev.*, from *Caspar's Wochenschrift*, April 3, 1841.

## MEDICAL JURISPRUDENCE AND TOXICOLOGY.

47. *Medico-legal essay on Cicatrices.* By M. MALLE, Professor at the Military Hospital of Instruction, Strasburg.—This essay appears to have impressed the editors of the *Annales* so favourably, as to induce them to award an honorary medal to its author. We shall attempt a concise analysis of its contents.

The subject itself has been but briefly and imperfectly noticed by writers on legal medicine. Orfila and Devergie make a few passing remarks concerning it, but the latter, according to Malle, is altogether in error, when he asserts that some cicatrices may in time disappear, particularly on young persons, or that they may undergo such changes, that we cannot specify the nature of the original injury. All this is denied by our author. A cicatrix is a new and abnormal formation, dependent on a previous lesion, and permanent in its nature. Unless we concede this, we have no data on which to form a diagnosis.

As illustrative of the variety of cicatrices, and the necessity of occasionally investigating their characters, Dr. Malle adduces the example of the discrimination that must be sometimes made between the effects of injuries by fire-arms and those originating by scrofula or syphilis. So also, we may be called upon to state the distinction between the marks of vaccination, and of smallpox. In questions of disputed identity, or in actions for damages from wounds, much of the medical testimony may be founded on the character of a cicatrix. The subject is examined under the following divisions.

1. *The relation of cicatrices to their producing cause.*—This is, in the first place, greatly modified by the depth of the original injury. If the skin only has been divided, it exhibits on healing a very different appearance from that of a closed burn, which has penetrated much deeper. When there has been a solution of continuity of any description, we should inquire into the mode of cure that has been pursued. If the injury has been treated by the first intention, the cicatrix will be nearly linear, and this often happens, although the wound has been a contused one. But the tendency in most cases is to the form of an ellipse. This

will depend on the elasticity of the skin—its tension influenced by position, and muscular contraction—the convexity of the subjacent parts, and lastly, the laxness of the subcutaneous cellular tissue. According as these causes operate most powerfully on a wounded part of the body, as the knee or elbow for example, will be the tendency to the latter form, and it will even sometimes become *circular*, or nearly so. In parts the reverse of these, as the spaces between the fingers and toes, the axillary region, &c., the linear shape will be most likely to occur. But these results are not invariable. It has been noticed that when the tension acts irregularly, the cicatrix will incline to the linear form, and again, a linear wound may be united by the skin only, leaving the subcutaneous tissue considerably separated.

It is by attention to the circumstances just enumerated, that we can explain why the same instrument, a sword for example, can inflict varying shaped wounds in different parts of the body, and of course leave cicatrices of different forms.

In *wounds from fire-arms*, we can seldom infer the form of the projectile, from that of the cicatrix. Suppuration, and sometimes gangrene, increase the destruction of parts. The tendency, however, in all, is to a rounded shape, and the diameter of the cicatrix both of the entrance and exit wounds, is always less than that of the projectile. If the fire-arm has been discharged at a distance, the cicatrix resembles a perfect disk, depressed in the centre with the skin tightened from thence to the circumference, in consequence of its adhesion to the subjacent parts. On the other hand, when discharged very near, the cicatrix will be depressed, with irregular edges, and if recent, may be accompanied with a bluish coloured skin from the burning of the powder. Sometimes, indeed, this colour remains permanent, owing to grains of unburnt powder having been driven into the skin. It may occasionally become a question, when several cicatrices are present, whether they have originated from one or more discharges of fire-arms. This is a difficult problem on the dead body, but we should keep in mind the extraordinary deviations of projectiles. One of the most remarkable is that mentioned by Professor Levy, in which a single ball caused four wounds—two on the internal surface of the arm, and two on the back.

*Burns.*—The scar here is peculiar. It is formed by the exudation of lymph on the surface of the fleshy points of the suppurating wound, thin and reddish, and never completely supplying the original loss of substance. It varies in form and shape, according to the depth of the injury, and the nature of the subjacent tissue that has been reached. When superficial, it assumes the form nearly of the burning body; when deep, it has a rounded circumference. The edges then are rough, concentric, and descending like steps, as if the cause had contracted its circle of action, in proportion as it penetrated more deeply. Solid caustics, on the other hand, leave perpendicular edges; liquid ones resemble superficial burns in their effects, unless they have had a considerable period to operate, and then their cicatrices, like those of the solid, are circumscribed, deep and depressed in the centre. The scar from a boiling liquid, or from the rapid contact of a burning body, is large, irregular on its surface, and superficial.

These scars sometimes require weeks and even months, to complete themselves. They gradually thicken, and contract from the edges to the centre. This continues until the surface become white and solid, covered with a thin shining epidermis, which is destitute of mucous tissue, sebaceous follicles, and hair bulbs. Now and then, a few white hairs are observed, but the surface is constantly dry, although the whole of the rest of the body be covered with sweat. Thus those laminæ are united to adjacent parts, and form a depression corresponding to the loss of substance, and the full condition of the surrounding tissues.

In examining the dead body, we find some impenetrable to the minutest injections; others are permanently rose-coloured, or red, and gorged with venous rather than arterial blood.

*Dislocations.*—A simple dislocation immediately reduced leaves no trace; but in aged, feeble or rachitic persons, a stiffness of the part will remain, and particularly if there has been a rupture of the muscular fibres of tendinous parts, we

shall find cicatrices. It remains to ascertain whether reduction was attempted, or whether there was a mistake as to the nature of the case.

*Fractures*.—Callus is another name for the cicatrix of bone. A perfect union indicates that a considerable period of time has elapsed since the injury, and particularly so, if the united part is strong, and equally with the other resists our efforts to break it. It is on the dead body alone, that we can satisfactorily ascertain the actual condition of fractures and dislocations. On the living, we can only partially examine the surface of superficial bones, as the clavicle, tibia, and forearm, and here the swelling may sometimes be felt at the end of eight or twelve months. We should be careful not to confound this with spina ventosa or syphilitic exostosis.

*Surgical cicatrices*.—Under this head, Dr. Malle includes all those scars which are left after a medical application or surgical operation; as the effects of long-continued blisters, of moxa, and the cautery; the spots induced by tartar emetic ointment, and the cicatrices left after the surgeon has used his knife. In questions of identity, the double scar of the seton may be made to resemble the two wounds from a ball. If epispastics be continued too long, particularly on females, the skin will be destroyed, according to Dupuytren, and an indelible brownish mark will be left. The scars from moxa and the cautery, resemble those from circumscribed wounds with loss of the tissue, and we have to refer to their position in order satisfactorily to designate the cause.

Since a certificate of vaccination has become necessary in certain cases, the examiner may be required to distinguish between the real and spurious marks. The last leaves only red, superficial spots, very different from the figured cicatrix of the genuine affection. Lastly, scars from surgical operations must necessarily bear a great affinity to those resulting from wounds.

*Spontaneous solutions of continuity*, or the scars which succeed scrofulous, syphilitic, cancerous, &c. ulcers. These it is very difficult to discriminate. Some indeed have assigned a distinct character to each, as a round one to the syphilitic, and an angular one to the cancerous; but there is infinite variety in all of them, and the examiner should rather refer the form to the anatomical state of the part, (such as the elasticity of the skin, convexity or depression of surface, &c.) than to the disease. We may also draw an inference from the particular place where the scar occurs. Thus, one in the inguinal regions may lead to the suspicion of its venereal origin, and in the neck or over the parotid, of its scrofulous nature. But, in general, we should hesitate long before pronouncing a decided opinion.

2. *To what depth had the solution of continuity represented by the scar extended?* This can only be answered after death. Dissection must trace it through the various tissues.

It has been incorrectly supposed that some parts of the human body will not cicatrize. The process proceeds as rapidly in the mucous tissue, as in the cutaneous. The serous also unites with adhesion of the contiguous faces, by means of a plastic exudation, while the cellular is in some measure the medium of adhesions. Delpach has well described the characters of the tissue of cicatrices. It is manifestly fibrous, dense, capable of resisting much force, and but little extensible, although it possesses the power of retraction, which, however, is only partially subservient to the will.

A contusion with no injury to the skin leaves no scar, but is marked in its progress by various changes of colour, and we can form an opinion by these of the length of time that has elapsed since the injury. Again, there may be internal contused wounds, while the skin is perfect. Suppose one of these, as of the lungs or peritoneum, should heal and form adhesions, and presently the individual dies of a supervening disease. Dissection here will prove that the effects of the wound have not been the cause. In wounds with a sharp-pointed instrument, their shape, although depending some on its form, is mainly influenced by the tension exercised on the part. The cicatrix is smaller than the wound, and of course neither of them will enable us to judge of the size of the weapon. The parts return rapidly after the injury to their original position.

The results obtained by Dupuytren and Filhos, with cylindrical weapons are hence exceedingly interesting.\* Bellemain has also ascertained that muscular fibres when divided will unite so perfectly that the point of section cannot be found with the microscope. When divided transversely, the scar is scarcely ever linear, a consequence of their constant contractions.

The same tendency exists with tendons and ligamentous tissue, in consequence of their imperfect vitality. The nervous tissue, if not completely divided, also unites again.

As to the bones, it is highly necessary that the medico-legal examiner should familiarize himself with the progressive changes of the callus. The division of it by Dupuytren into *provisory* and *perfect* callus, should be well understood.

3. *How long since, has a cicatrix been formed?* This must be answered by a reference to the facts already stated. In general, the degree of organization is the measure. If red, tender to the touch, and covered with scabs, it is recent. Its perfect characters have been already mentioned. It is, however, impossible to specify precisely the length of time necessary for these changes, and the only exception to this is with the bones. For these, authors have assigned exact periods of progress. None, however, have invariable terms. Feeble health, an irritable temperament, advanced age, unhealthy seasons, and indeed all the causes of disease must operate unfavourably, while the presence of any constitutional affection must aggravate and increase the delay in healing. Lastly, the degree of vitality in a tissue has some influence, as also the functions exercised by a part. A wound in the bowels is slow in healing, from the constant motion present, and one in the lower extremities, must require longer time than another in the upper, under similar circumstances.

In legal medicine, cicatrices are to be considered as to their effects on the functions of particular organs (local), and on the system generally. Either of these may need investigation in questions of damages. Inquire whether they are curable or not, whether connected with permanent adhesions, or productive of deformity; and also recollect, that an internal injury, though healed, will often predispose to disease of the particular cavity. The case is peculiarly uncertain, if it continues fistulous. *Annales d'Hygiène et de Médecine Légale*, April, 1810.

T. R. B.

48. *Extensive extravasation of blood in one hemisphere of the brain, without any symptom indicative of it during life.*—This case is related by Mr. FOWLER, (*Lancet*, August 8, 1810). The patient, a female aged sixty, had been gradually declining in strength for three or four years, and suffered occasional attacks of rheumatism. Of late, her symptoms resembled those of subacute inflammation of the mucous membrane of the stomach. She vomited the blandest articles, and accompanying these there was a constant and severe headache, over the right eyebrow. The headache was, however, always relieved for a time by vomiting. She continued to fail; and one day, on being taken up stairs, her head struck with violence against the staircase. It produced no change in the symptoms. There was nothing to indicate an injury or disease of the brain; but she finally sunk fourteen days after the blow.

On dissection, the stomach was found contracted, and its mucous membrane vascular, and there was a tumour adherent to the pylorus and duodenum. The membranes of the brain appeared healthy, and the left hemisphere was of its natural appearance, but on opening into the right, several ounces of coagulated blood were discovered. The walls of the cavity containing it were of the consistence of cream.

Here was an instance, in which the moral and intellectual faculties remained sound—where no loss of sensation or volition had been experienced, and none

\* They ascertained that a weapon perfectly cylindrical and pointed, will produce wounds with distinct angles. Sanson, on the other hand, found seven oval wounds, produced by a sharp foil on the body of a female who had been assassinated.